

components with the internal volume of load lock 314, 316. In one embodiment, the gas supply system 452 is used to provide an inert gas for quickly venting without generating particles within the single substrate load lock. As used here, a metering valve 464 is adjusted to provide laminar flow of gas into the single substrate load lock and then after a given time, the gas supply system shifts over to another line which allows higher gas flow. It is believed that by providing metered laminar flow of gas to fill the single substrate load lock internal volume before switching to the higher flow rate, particle generation is minimized.

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Also in communication with the internal volume of single substrate load lock 314 is roughing pump 318 and cryo-pump 320 each of which is isolated from the internal volume of load lock 314, 316 by isolation valves 472 and 470, respectively. A roughing pump 318 is used to evacuate the internal volume of single substrate load lock 314 to roughing vacuum. Cryo-pump 320 is then used to further evacuate the internal volume of single substrate load lock 314 to provide high vacuum in a range of about 10^{-2} to about 10^{-7} torr in order to facilitate transfer of substrates from single substrate load lock 314 into internal transfer volume 299 which is also maintained at a suitable high vacuum.

IN THE CLAIMS:

Please amend the following claims:

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1. An apparatus for processing substrates, comprising:
 - a) a transfer chamber;
 - b) one or more load lock chambers disposable about the transfer chamber;
 - c) one or more process chambers disposable about the transfer chamber;
 - d) a plumbing tray disposable adjacent the transfer chamber and having facility connections for each process chamber and load lock chamber; and
 - e) a chamber tray disposable adjacent each process chamber, load lock chamber and transfer chamber, the chamber tray in fluid communication with the facility connections of the plumbing tray.